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Notes on INDIAN FIBRES illustrated by Prepared Specimens. By
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[Read before Section (F.) Economic Science and Statistics, of the British Association for the Advancement of Science, at Leeds, 28th September, 1858.]

I WAS not aware when I mentioned to the Section the existence at the India House of many new India Fibres that some of them were given to Mr. Sadler for manipulation, and I am now glad to exhibit them with the following notes:—

The natives of India were at an early period acquainted with the art of spinning and weaving, and described as weaving cloth made of fibres from trees more beautiful than from sheep's wool; and in the institutes of Menu, written before the Christian era, we learn, that the sacrificial thread of a Brahmin must be made of cotton; that of a Cshatriya, of Sana thread only; that of a Vaisya, of woollen thread. It is supposed, that the Sana thread was most probably that of the Sunn (*Crotolaria Juncea*).—Buddha, in his sermons preached 600 years before Christ, interdicted to women the use of certain muslins because they were too fine for decent concealment.

The Ambaree (*Hibiscus Cannibinus*) or Mesta plant of Bengal and Palungo of Madras and Ambaree of Western India, is very generally cultivated all over India; it grows from three to seven feet in height, the stem straight and simple, it is usually called Indian Hemp or one of the Brown Hems of Bombay.

Bandikai of Madras, and Bendy of Bombay (*Hibiscus Longifolia*), grows to a great height and very straight, with a few branches, and with pyramidal pods, which when young are filled with a large proportion of mucilage, and are gathered and cooked as a vegetable; the fruit is also used to thicken soups, and the seeds added like Barley to it; they may be also roasted as a substitute for Coffee.

The Deckanee Hemp, Ambaree, grows with a straight clear stem from four to seven feet in height; its leaves are in general used as an esculent vegetable by the natives, and taste something like sorrel.

Rouselle (*Hibiscus Sabdariffa*) is cultivated in most gardens, because its calyxes as they ripen become fleshy, and are of a pleasant acid taste, and are employed for making tarts, as well as an excellent jelly.

Marool of Madras, or Bowstring Hemp (*Sansevieria*), the leaves when cultivated are from three to four feet long; the fibre extends their whole length; from these fibres the ancient Hindoos made a very tough elastic thread, of which they made their bowstrings.

The Naroo and the Naroo T fibres being both new ones, no description is yet given, except that they are natives of Malabar.

The Bunochra (*Urena Labata*), and the Kungio (*Urena Sinuata*), are from two weeds common in most parts of India.

The Mudar, or Mudder, is met with in both the southern as well as the northern parts of India, in considerable quantities in all uncultivated lands, and encroaches even on cultivated grounds. It is a plant with broad, fleshy, glaucous-coloured leaves, and which, when pierced, gives out a milky juice from every part; this is called Ak and Mudar in Northern, and Yercum in Southern India. It is the *Asclepias Gigantea* of Botanists. Its juice and the powdered bark of its roots are employed medicinally by the natives of India in cases of leprosy and other cutaneous affections; lately its milky juice has been collected by making incisions into the plant, and preparing it as a substitute for Caoutchouc and Gutta Percha.

The Pods of the Mudar are full of a beautiful glossy silk down, which the natives spin into a beautiful soft thread; from intimation given, this article will soon come into great use in the trade of this town (Leeds). The native mode of separating the fibres of the Mudar is tedious, rude, and injurious; notwithstanding it is one of the strongest fibres known, as, from experiments made by Dr. Wight, it bore 552 lb., when *Crotolaria Juncea* bore only 404 lb., and a small cord bore 3 cwt., without showing the least symptom of distress; yet by the samples now produced it certainly seems better adapted for purposes of Flax than Hemp, and well will it be for both housewives and servants if ever it should be brought into general domestic use instead of Flax, for common washing with soap and water will bleach the fibre a perfect white, beautiful and glossy.

The *Bromelia Ananas*, and *Bromelia Pigna*, also the Curratow fibres, are all of the different qualities of *Bromeliaceæ*, or the Pine Apple tribe. It appears the Pine Apple was first introduced into India by the Portuguese, it has now become so naturalized as to appear indigenous; it grows in enormous quantities in various parts of India; indeed so plentiful that a boat load of the fruit has been sold for one rupee, or two shillings, at Sincapoor and Malacca.

The *Perida Fatida*, or the Vegetable Silk; there can be no doubt but that this extraordinarily beautiful article will ere long enter largely into every description of ladies' wear.

The Neilgherry Nettle (*Urtica Heterophylla*), or the Vegetable Wool: indeed so greatly does this Wool resemble the Sheep's Wool, as to deceive some of the best judges in England.

The fibre is long in staple and by the two stricks now shown, and which were hackled by the Messrs. Marshalls and Messrs. Hives and Atkinson, proof is afforded how well it is adapted for Flax Spinning Machinery, and when Flax Spinners shall provide warps of this material cotton warps might be dispensed with, and a warp of great strength, be introduced, which so corresponds with all the essentials of real wool, that when mixed with wool, they will both take the same dyes, mill and dress together, and will certainly manufacture a good Cloth.

The Flax of India, according to Dr. Roxburgh, is mostly cultivated on account of its seed, and the part which in most other countries is most valued, is there thrown away. The Belfast Chamber of Commerce observes, that as India annually exports nearly 100,000 quarters of seed to Great Britain and Ireland, it has been calculated, that the plants producing this quantity of seed, would yield annually at the least 12,000 tons of fibre, value say 500,000*l.*, all of which now goes to waste. There can be no doubt, therefore, that the question is one of immense importance not only to this country, which requires such immense quantities of Flaxfibre; but to India, which produces such enormous supplies of seeds, and is supposed to waste so much of valuable exportable material. There can be no doubt that the very best Flax may be produced in India, and always at a remunerating price, for labour there is so plentiful and cheap, that whatever may be the extent of cultivation entered into, there need be no fear of being undersold by any nation upon earth. It has been said, that if any party in India could supply this Kingdom with 100,000 tons of India Flax at this time, he might go on shipping as fast as he could, and never feel the least fear of overstocking the market. Instructions have been given for a considerable supply of four of the different India fibres.

The Silk of the Wild Silk Worm ought to be noticed, as the fibre, or thread, is fifteen times stronger than that of the common silk. No doubt it will be of importance to Manufacturers of what is called Spun Silk, as by proper looking after, an immense quantity, now completely neglected, might be collected and brought to be of great advantage to them.

The above is from information not collected by myself, but to the accuracy of which I can bear testimony from personal knowledge. India produces some 200 varieties of fibres for examination, and it is to be hoped for future use in Europe. The India House Museum contains specimens, not only of these, but of every article of raw and cultivated produce of India; Minerals, Gums, Dyes, Woods, and Cereals, and specimens of all the textile fabrics and works of art and taste; the whole are open to the inspection of the public, and manufacturers can obtain any desired information upon application.

In closing these notices it would be unjust to Mr. Dickson of Leeds not to state that the subject has engaged his earnest attention; and that he has a case of prepared Indian Fibres in the Exhibition of local Industry.

I have called the attention of the Section only to such fibres as have been manipulated by Mr. Sadler, but for elaborate, complete, and instructive papers upon Indian fibres, I must refer the Section to vol. ii. of the Society of Arts, p. 366, and to vol. v., p. 17, where the lamented Dr. Royle will be found to have nearly exhausted the subject.
